COMPSCI 102 Introduction to Discrete Mathematics

Homework 5 (due November 19, 2007)

The Great 102 Hunt! (95 points)

In 1955, the RAND Corporation published a book with 1,000,000 random digits -- this book is now considered a pioneering work in computing.

http://www.(tenth ten-digit prime in the original list of RAND random digits).org

Note: slide your window by one digit each time.

Rules and Regulations (Read Carefully):

1. **Groups.** Unlike any other assignment in the course, this homework must be done in a group. The groups were chosen randomly and are included at the bottom of this document. You must work within your group. We suggest you contact your group members immediately and devise a plan.

2. **Prize.** Each member of the first group to complete the hunt will be able to get a full score on any in-class quiz of their choice.

3. **Google and Other Search Engines.** This is the only assignment throughout the year where using a search engine such as Google is allowed to find answers. Bear in mind, however, that we ourselves have searched for the solutions, and in most cases want you to write code or determine the solutions yourselves.

4. **Individual Hand-ins.** Each of you will be required to hand in a typeset document individually. The content of this document will be revealed as the hunt progresses. This part of the assignment is entirely individual, and that means you cannot directly copy among the team members. Each person must write their own solutions. Failure to do so will be considered cheating. Individual hand-ins are worth 20 points. Important: In order to be eligible for the prize, every member of your group must turn in their write-up by 11:59 PM on Monday, November 19, 2007. The individual penalty for turning in a late assignment will conform to the standard class rules. Individuals who don't turn in their written part obtain a zero on the entire assignment.

5. **Collaboration.** All problems should be solved in collaboration with your group members. That means that you can freely discuss any aspect of this assignment with anybody in your group. On the other hand, any communication between different groups regarding solutions or problems in this assignment is strictly prohibited. You cannot talk to people from other groups. Doing so will be considered cheating in this assignment.

6. **Cameras.** Parts of this assignment will require you to document your progress using a digital camera. We assume that at least one member of your group owns a camera, or a phone with a camera, or a laptop with a camera, or knows somebody that owns a camera or a phone with a camera. If none of your group members has access to a digital picture-taking device, contact us.

7. **Scoring.** This problem is worth a total of 95 points. Successful completion of the assignment is worth 75 points (20 for the individual written part, and 55 as a group grade). The remaining 20 points are reserved for speed. The first three groups to finish will obtain a perfect score of 20 for speed. Each subsequent group after that will lose 1/2 a point per rank. That means that the fourth group will obtain a score of 19.5, the fifth group 19, the sixth group 18.5, and so on. The scores will continue dropping until reaching zero. However, if your group finishes by Monday (November 19), at 11:59 pm, you will get a minimum of 10/20 points for speed.

8. **Finishing.** You will know when you are done. Note that the individual written part of the assignment is not counted when it comes to determining who finished first. As long as all members of your group turn in their individual written assignments on time (and done well!), your group will be eligible for the prize.

9. **Lamers.** Many of the puzzles in this assignment will require the presence of every member in the group. If your group is not able to contact one of your group members, or they refuse to participate, please email the course staff immediately and in the meantime continue attempting to solve the puzzles. People who are unwilling to participate will receive a zero in this assignment, unless they have extenuating circumstances.

10. **Inclusion of All Members.** Parts of this hunt will require your entire group interacting with members of the course staff. For such interactions, every member of the group should be prepared to answer questions relating to the problems that you were supposed to solve to get to this point. That means it's in your group's best interest to solve the problems together, and ensure that everybody understands the solutions to the problems.

Groups

Group 1
Martin
Grant
Alex
Ray

Group 2
Matt
Eric
Nick H.

Group 3
Will
Sarah
Nick P.

Group 4
Harish
JJ
Rob